

**Amendments to the Claims:**

This listing of the claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1-16 (Cancelled).

17 (New). A process for upregulating T-cell activity in a mammalian subject, comprising:

treating a population T-cells *ex vivo* with a molecule that causes stimulation of glutamate receptor activation in an amount sufficient to stimulate glutamate receptor activation, thereby upregulating T-cell activity, said molecule being selected from the group consisting of:

- (a) glutamate;
  - (b) a glutamate analog that has a substantial degree of structural identity to glutamate and that stimulates glutamate receptor activation as measured by upregulation of T-cell cytokine secretion, adhesion, or chemotactic migration;
  - (c) an anti-glutamate receptor antibody that stimulates glutamate receptor activation as measured by upregulation of T-cell cytokine secretion, adhesion, or chemotactic migration;
- and

(d) an expressible polynucleotide encoding a glutamate receptor, and administering said treated T-cell population to the subject.

18 (New). The process of claim 17, wherein said molecule is glutamate.

19 (New). The process of claim 17, wherein said molecule is a glutamate analog of (b).

20 (New). The process of claim 17, wherein said molecule is an antibody of (c).

21 (New). The process of claim 17, wherein said molecule is a polynucleotide of (d).

22 (New). The process of claim 21, wherein said molecule is a polynucleotide of SEQ ID NO:1 of SEQ ID NO:2.

23 (New). The process of claim 17, wherein said subject is suffering from a disease or condition selected from the group consisting of a neoplastic disease other than a T-cell cancer, an infectious disease or an infection, a congenital immune deficiency, an acquired immune deficiency, a neurological disease or injury, and a psychopathology.

24 (New). The process of claim 23, wherein said disease or condition is a neoplastic disease other than a T-cell cancer.

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25 (New/Withdrawn). The process of claim 23,  
wherein said disease or condition is an infectious disease or  
an infection.

26 (New). The process of claim 17, wherein said  
glutamate receptor is an ionotropic glutamate receptor.

27 (New). The process of claim 26, wherein said  
glutamate receptor is GluR3.